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EXECUTIVE SUMMARY

On March 4, 1980 the Department of Hospitals and Medical Care directed the Emergency Services Branch to extend the Ground Ambulance Study to include Advanced Life Support (ALS) services. The objective of the ALS component of the Ground Ambulance Study is to determine the feasibility of introducing an ALS ambulance program for the province.

An ALS Working Committee was established in May, 1980. An ALS Discussion Paper was reviewed by three Advisory Committees.

Two specific issues are identified. First, there are no licensure regulations for emergency paramedics practising in Alberta. The performance of sophisticated life-saving procedures are in the hands of potentially "unsafe" personnel. Second, there are no provincial guidelines for the establishment of ALS services. ALS services are being established in the province without regard for the skill maintenance of emergency paramedics. The lack of licensure regulations for emergency paramedics makes the feasibility of ALS services in some communities questionable.

The alternatives to the above two issues are discussed along with their advantages and disadvantages.

A literature review of the benefit of emergency paramedic ambulance services seems to suggest that some lives can be saved by ALS services despite concerns over some study designs. Extrapolations from the literature were applied to mortality statistics for Alberta in 1978. It was calculated that approximately 196 Albertans (See Table 2) who died, from ischemic heart disease and motor vehicle accidents in 1978, could have been saved if mobile ALS service was in effect.

Based on the deliberations of the ALS Working Committee and

the feedback from the Advisory Committees to the Discussion Paper the following recommendations are made.

A. ALS POLICY ISSUES

It is recommended:

1. That the provincial government should not adopt a policy on an ALS ambulance program until licensure regulations for emergency paramedics are introduced.

2. That the College of Physicians and Surgeons of Alberta proceed with the regulation of emergency paramedics under The Medical Professions Act.

3. That, when licensure regulations for emergency paramedics become mandatory, the provincial government introduce an ALS ambulance program by legislation with criteria for the establishment of local ALS services.

B. INTEGRATION OF BLS AND ALS

Since the recommendations outlined in the BLS Policy Paper (August 15, 1980) form the basis for an ambulance program at the BLS level, and

Since an ALS ambulance program would be incumbent upon a pre-existing BLS ambulance program, therefore,

It is recommended:

4. That the intent of the BLS Policy Paper recommendations would also apply to an ALS ambulance program.

C. IMPLEMENTATION STRATEGY

It is recommended:

5. That the ALS services in existence at the time of introduction of an ALS program be given the opportunity to apply for provincial government funding, to the ALS level, based on the criteria for the establishment of ALS services.

6. That the cities of Edmonton, Lethbridge and Red Deer be given the same opportunity as (5) above, if they do not have ALS ambulance services at the time that the ALS ambulance program is introduced.

7. That the provincial government funding for ALS services would not be considered for any other community for a period of at least 24 months following the introduction of an ALS program to enable the Department of Hospitals and Medical Care to collect data pertaining to ALS ambulance services.

The estimated costs for the implementation of ALS services on a province-wide basis and for 10 selected communities are contained in Appendix I and Appendix II respectively.

I. INTRODUCTION

A Ground Ambulance Study, concerning Basic Life Support (BLS) services, was completed by the Emergency Services Branch of the Department of Hospitals and Medical Care in May 1980. The BLS Policy Paper has made specific recommendations concerning legislation, training, funding, authority, standards, reporting systems, radio communications, inter-hospital transfer of patients and user costs.

On March 4, 1980 the Department of Hospitals and Medical Care directed the Emergency Services Branch to extend the Ground Ambulance Study to include Advanced Life Support (ALS) services..

The objective of the ALS component of the Ground Ambulance Study is to determine the feasibility of introducing an ALS ambulance service program for the province. An ALS Working Committee was established in May, 1980. An ALS Discussion Paper was developed and sent to all 33 committee members for review and comment. Only 10 responses were received.

The issues discussed in this Policy Paper are the result of the deliberations of the ALS Working Committee and responses received from the ALS Discussion Paper.

II. PROBLEM

2.1. Lack of Licensure and Regulation for Emergency Paramedics

ALS services in Alberta are provided by emergency paramedics who are trained to treat life-threatening emergencies (shock, cardio-respiratory failure and cardiac arrythmias) at the scene of the incident and enroute to the hospital. In Alberta emergency paramedics are being trained to perform sophisticated life-saving procedures with no legal protection and no licensure

regulations. These emergency paramedics are exposing themselves, and the physicians under whose direction they function, to medical-legal suits. There is also no guarantee that emergency paramedics are performing advanced life support procedures at a "safe" level because there are no licensure regulations for maintenance of their skills.

It must, however, be noted that The Medical Professions Act allows the College of Physicians and Surgeons of Alberta to license and regulate "professional medical assistants", which would include emergency paramedics. The College has not proceeded with regulation of emergency paramedics in anticipation of the proposed Health Occupations Legislation (Bill 30). This Bill was not introduced in the Spring, 1980 session of the Legislature.

2.2. Lack of Provincial Guidelines for ALS Services

At present, in Alberta, there is a training program for emergency paramedics at the Southern Alberta Institute of Technology (SAIT) in Calgary. This education program, called the Emergency Paramedical Care (EPC) program, has been in operation since 1971.

ALS services have developed in Alberta as a result of the graduates of the EPC program setting up these services. Seven communities now have ALS services; these are Calgary, St. Albert, Grande Prairie, Fort McMurray, Medicine Hat, High River and Airdrie. It is likely that other communities will follow suit.

Communities now have no guidelines by which to establish ALS ambulance services. Municipalities are able to provide any type or level of ambulance service through The Municipal Government Act.

ALS ambulance services are increasing in the province. Job satisfaction and skill maintenance of emergency paramedics could not be ensured in all ALS ambulance services that are now being established.

In essence, the problem with ALS services concerns the "uncontrolled" development of ALS services in Alberta compounded by the lack of legal protection and licensure regulations for emergency paramedics.

III. BACKGROUND

3.1. Scope of ALS Services

ALS services involve a more sophisticated level of emergency medical services than does Basic Life Support (BLS). BLS is defined as pre-hospital emergency care which consists of the recognition and basic treatment of airway obstruction, respiratory arrest, cardiac arrest and the proper application of cardiopulmonary resuscitation (CPR). ALS is defined as BLS plus the use of adjunctive equipment to support respiration and circulation, establishment of an intravenous fluid life-line, drug administration, defibrillation, monitoring and control of cardiac arrythmias. It also includes the establishment of the necessary communication with the physician, to ensure continuing care and the maintenance of life support until the patient has been transported and admitted to a health care facility. Thus, a mobile ALS service utilizes specially trained persons to render emergency care to critically ill and injured patients (viz: major trauma, burns, acute cardiac, high risk obstetrical cases and premature infants, poisonings, psychiatric, drug and alcohol overdoses).

In Canada emergency paramedics are utilized only in Alberta and

British Columbia. In Ontario the services of emergency paramedics are being studied in a pilot project.

In the United States most urban communities have progressed to ALS services (Boyd, 1976, p.106). There are over 300 programs staffed with emergency paramedics capable of providing definitive treatment for out-of-hospital cardiac arrest (Eisenberg et al, 1980a, p.1379).

3.2. The Impact of Mobile ALS Services on Health Outcomes

Although the emergency paramedic is trained to render care to all critically ill or injured persons, most of the literature on the evaluation of mobile ALS services is devoted to the treatment of the acute cardiac patient including the cardiac arrest victim. Notwithstanding the narrow scope of such studies heart disease is a major cause of death in North America. Moreover, cardiac arrest is "definable, frequent, responsive to the intervention and has a measurable end-point or outcome" (Bergner, Eisenberg and Hallstrom, 1979, p.5).

Descriptive studies on the successful outcome of cardiac arrest following pre-hospital cardio-pulmonary resuscitation have appeared in the literature including those from Seattle (Cobb, Alvarez and Kopass, 1976), Belfast (Pantridge and Adgey, 1975), Los Angeles (Diamond, Schofferman and Elliott, 1977), Charlottesville, Ohio (Crampton, Aldrich, Gascho et al, 1975), San Antonio (Schnitzel, 1977), Cincinatti (Lauterbach, Spadafora and Levy, 1978) and New Westminster, British Columbia (Vertesi, 1978).

Table I summarizes the data from five of the above mentioned reports on pre-hospital ALS. It would appear from these data that in a metropolitan area of 500,000 people (comparable to

Table I

SUMMARY OF DATA ON PRE-HOSPITAL ALS

City/Area	Approx. Population	Time Interval Reported	No. Arrests	No. Arrests/ 100,000/ Year	Long Term Survivors	No. Saves/ 100,000/ Year
Los Angeles	350,000	10½ Mos.	120	39.2	16	5.2
Seattle	500,000	24 Mos.	511	51.1	57	5.7
San Antonio	650,000	12 Mos.	236	36.3	75	11.5
Cincinnati	450,000	12 Mos.	147	32.7	22	4.9
New Westminster	250,000	27 Mos.	227	40.4	21	3.7

Edmonton) one could expect a mobile ALS service to handle approximately 250 out-of-hospital cardiac arrests per year and permit approximately 28 patients to leave the hospital alive who might otherwise have died before reaching the hospital.

However, methodological limitations have been noted in most of the studies reporting successes. The research designs in these studies lacked control populations, failed to pay attention to other factors that might impact on cardiac mortality and failed to segregate the effects of pre-hospital ALS from those changes in the emergency medical services system (Gibson, 1976, p.110).

Studies on patient outcome evaluation of emergency paramedic services versus basic life support services are sparse. Eisenberg and his associates (1980b) have used a before-and-after quasi-experimental design rather than a simple descriptive study; however, there is still no "true" control group. Eisenberg et al (1980b) reported that emergency paramedical services improved survival for out-of-hospital cardiac arrest as compared to that obtained with basic level emergency medical technicians (EMTs). They found that the initiation of paramedic services increased the proportion of patients who survived cardiac arrest, and who were admitted to a hospital, from 19 to 34 percent and the proportion discharged from hospital from 7 to 17 percent (p.812). These results must, however, be interpreted cautiously. Potentially confounding variables were not controlled for. The two communities studied were clearly not equivalent: mortality rates for primary heart disease, and age distribution in the two communities were not similar (Eisenberg, Bergner and Hallstrom, 1979). Previous history of heart disease in the study population was not controlled for. In a study of 36 months duration one EMT-control community had EMT services for only 24 months. Differences between the paramedics and the EMTs in the two communities were not discussed, such as length of experience,

familiarity with cardiac patients, and the level of skills maintained by these providers of pre-hospital cardiac care.

Whether emergency paramedical services improve survival of out-of-hospital medical emergencies is a subject for debate. More careful research is needed to determine the true benefit of pre-hospital advanced life support systems. "New programs, in particular, should consider establishing controlled trials before they become so deeply entrenched that it is politically impossible to do so" (Hoffer 1979, p.436).

3.2.1. Implications for Alberta

The limitations of pre-hospital emergency services evaluation on health outcomes have been noted in 3.2. However, despite the concern over study design, the evidence so far appears to suggest that some benefit can be obtained from a paramedic ambulance service. Some extrapolations will therefore be made from the literature and applied to mortality statistics for acute myocardial infarction and motor vehicle accidents in Alberta.

Acute myocardial infarction (AMI) is the most frequent cause of death from ischemic heart disease. According to Webster (1977) more than half of the deaths from AMI occur outside the hospital, and that one-third of those who die from AMI, before medical aid reaches them, could be saved by emergency paramedical care (p.1383).

In addition, motor vehicle accidents claim many lives. A study by Frey, Huelke and Gikas (1969) suggested that 18 percent of victims of motor vehicle accidents were "salvageable", that is, probably would have survived, if the pre-hospital care they had received was at the advanced life support level.

In Alberta, in 1978, the number of deaths from ischemic heart

disease was 728 persons between the ages of 15 and 64 (Vital Statistics, Alberta,1978). If Webster's (1977) estimate is extrapolated to Alberta one could postulate that at least 121 "productive" lives could have been saved in 1978 (See Table 2). In addition, if Frey, Huelke and Gikas' (1969) estimate was applied to the 416 Albertans killed in motor vehicle and other transport accidents in 1978 (Vital Statistics, Alberta, 1978), approximately 75 victims between the ages of 15 and 64 who died in such accidents could have survived. It appears, therefore, that approximately 196 Albertans could have been saved in 1978 if an advanced life support ambulance service was in effect.

The economic costs of "productive" lives lost must not, however, be overlooked. Over half of the potential income lost was by males (See Table 2). Other "costs" include disruption of the family unit, financial deprivation, and loss of productivity, which are often permanently crippling to the young adult population (Burns, 1978, p.507).

IV. SPECIFIC ISSUES

4.1. Legislation for the Licensure and Regulation of Emergency Paramedics

Emergency paramedics have been trained and established in practise in Alberta since 1971. However, these emergency paramedics are performing sophisticated life-saving procedures without assessment of their competence and without legal protection. Physicians giving orders to emergency paramedics to carry out these medical acts are likewise without legal protection.

This unsatisfactory situation is jeopardizing the standards and future of pre-hospital medical care due to the increasing reluctance of physicians to expose themselves to such medical-legal risks.

Table 2

Potential Income Lost, by Causes of Death, 1978, in Alberta

Causes of Death	No. of Deaths (Age 15-64)	Estimated Total Productive Years Lost	Lives Which Could Have Been Saved	Estimated Productive Years Lost	Potential Income Lost ***
Ischemic Heart Disease	590 (M)	5,810	98 *	987	$11,908,155
	138 (F)	1,189	23 *	202	$ 2,437,130
Motor Vehicle and other Transport Accidents	304 (M)	10,512	55 **	1,892	$22,826,980
	112 (F)	3,621	20 **	652	$ 7,866,380
Total	1,144	21,132	196	3,733	$45,038,645

* Based on Webster's (1977) estimate[1].

** Based on Frey, Heulke and Gikas' (1969) estimate.

*** Based on 1977 Alberta average annual income of $12,065 (Alberta Annual Statistical Review, 1979).

[1]Although Webster (1977) indicated that more than 50 percent of deaths occur outside the hospital, this estimation is based on only 50 percent, and, therefore, does represent a slight under-estimation.

4.2. Criteria for the Establishment of ALS Services

Virtually any community in Alberta may establish an ALS service if the municipal government is willing to fund such a service. There is, therefore, the potential danger that mobile ALS services are being established in communities which may not fully realize the continuing education needs and skill maintenance of ALS ambulance personnel.

It was recommended by the ALS Working Committee that ALS ambulance services should be established under certain criteria (Proceedings of ALS Working Committee, May 1980). Concomitant with these criteria are the need for regulations for the licensure of emergency paramedics.

V. ALTERNATIVES TO SPECIFIC ISSUES

5.1. Legislation for the Licensure and Regulation of Emergency Paramedics

Alternative #1

Maintain the status quo i.e., allow emergency paramedics to continue practising without any form of regulation.

Advantage

Emergency paramedics do not have to be concerned about re-certification or licensure.

Disadvantages

(a) It exposes emergency paramedics to medical-legal suits with no legal protection.

(b) It has the potential for allowing "unsafe" emergency paramedics to perform critical life-saving procedures.

(c) There is no guarantee of effective medical control of emergency paramedics in the field.

Alternative #2

Request the College of Physicians and Surgeons of Alberta to proceed with the regulation of emergency paramedics under The Medical Professions Act.

Advantages

(a) It could be initiated fairly soon because the legislation is in existence.

(b) The medical profession would be directly involved in the regulation of emergency paramedics who are agents of the physicians.

Disadvantage

None.

Implication

This would place the emergency paramedics under the legislative supervision of the medical profession. It would have to be demonstrated that the advantages of this action, from a public interest standpoint, clearly outweigh the disadvantages (Policy Governing Future Legislation for the Professions and Occupations, Government of Alberta, undated, p.2).

Alternative #3

Await the introduction of the proposed Health Occupations Bill (Bill 30).

Advantage

It could "consider the minimum standards of competency to be required" of emergency paramedics.

Disadvantages

(a) If emergency paramedics are classified under the general rubric of ambulance attendants, there is the danger (because of their smaller number) of them not being represented on a Board as outlined in the proposed Health Occupations Bill.

(b) There is no indication when the proposed Health Occupations Bill would be enacted.

Alternative #4

Consider a mechanism under an Ambulance Services Act to license and regulate emergency paramedics.

Advantage

It would ensure that emergency paramedics are licensed.

Disadvantage

There would be administrative costs to the Department of Hospitals and Medical Care to administer the Act.

Implication

A precedent would be set for the Department of Hospitals and Medical Care to license and regulate health para-professionals.

5.2. A Policy for ALS Services

Alternative #1

Maintain the status quo i.e., allow any community to set up and fund an ALS service.

Advantages

(a) It allows communities the level of ambulance service they desire.

(b) There is no direct cost to the provincial government to fund an ALS service.

(c) Emergency paramedics are not subject to licensure.

Disadvantages

(a) It allows ALS services to be operated in any community without regard to the skill maintenance of the emergency paramedic.

(b) The public has no guarantee that a safe ALS service is being provided because of lack of licensure for emergency paramedics.

(c) Physician support may not be forthcoming in every community, thus emergency paramedics could be practising without physician control.

(d) In some communities hospitals may not allow emergency paramedics to practise their skills and, therefore, maintain their competence.

Alternative #2

Introduce a province-wide ALS service by legislation with no criteria for the establishment of local services. Funding would be provided by the Provincial Government.

Advantages

(a) It would facilitate a standardized program throughout the province.

(b) As a physician-extender the emergency paramedic can perform sophisticated life-saving procedures at the scene of the incident and enroute to the hospital.

(c) The critically-ill or injured person would be assured a higher level of care than that provided at the BLS level.

Disadvantages

(a) The costs for funding an ALS service would be greater than those for a BLS level of service (See Appendix I for costs).

(b) It could create AL services in every existing BLS service. The lack of provincial criteria and licensure regulations for emergency paramedics could cause a rapid dimunition of paramedical skills, and hence a potentially unsafe service.

(c) There could be some difficulty in ensuring that sufficient resources are available in the community to maintain an ALS service.

Alternative #3

Introduce an ALS service by legislation with the following criteria for the establishment of local ALS services:

1. *a pre-existing BLS service*
2. *an undertaking to employ a number of licensed emergency paramedics*
3. *service area medical support (in writing) to establish and maintain an ALS service, including*
   (a) *a designated medical director,*
   (b) *a medical advisory board,*
   (c) *physician support, for continuing medical education and re-certification of emergency paramedics.*
4. *service area hospital support (in writing) to establish and maintain an ALS service, including*
   (a) *hospital administration and hospital board support,*
   (b) *hospital staff support and involvement in the continuing medical education of emergency paramedics.*
5. *sufficient opportunity within the local ambulance service and/or a hospital(s), for emergency paramedics to maintain licensure. This criterion must be substantiated by supporting data.*

Advantages

(a) It would provide the orderly development of ALS services in the province, on a need basis.

(b) It would facilitate a standardized program throughout the province.

(c) As a physician-extender the emergency paramedic can perform sophisticated life-saving procedures at the scene of the incident and enroute to the hospital.

(d) The critically-ill or injured person would be assured a higher level of care than that provided at the BLS level.

(d) It would ensure that paramedics maintain their skills and, thus, their licensure.

Disadvantages

(a) The costs for funding an ALS service would be greater than for a BLS level of Service. (See Appendix II)

(b) Because of the nature of the criteria it would be difficult to determine which communities would meet these criteria. Therefore, manpower requirements and program costs cannot be accurately determined.

VI. RECOMMENDATIONS

6.1. ALS Policy Issues

It is recommended:

1. That the provincial government should not adopt a policy on an ALS ambulance program until licensure regulations for emergency paramedics are introduced.

2. That the College of Physicians and Surgeons of Alberta proceed

with the regulation of emergency paramedics under the Medical Professions Act.

3. That, when licensure regulations for emergency paramedics become mandatory, the provincial government introduce an ALS ambulance program by legislation with the following criteria for the establishment of local ALS services:

   (i) a pre-existing BLS service,

   (ii) an undertaking to employ a number of licensed emergency paramedics,

   (iii) service area medical support (in writing) to establish and maintain an ALS service, including:

      (a) a designated medical director

      (b) a medical advisory board

      (c) physician support for continuing medical education and re-certification of emergency paramedics.

   (iv) service area hospital support (in writing) to establish and maintain an ALS service, including:

      (a) hospital administration and hospital board support

      (b) hospital staff support and involvement in the continuing medical education of emergency paramedics.

   (v) sufficient opportunity within the local ambulance service and/or a hospital(s), for emergency paramedics to maintain licensure. This criterion must be substantiated by supporting data.

Implications

The licensing requirements for emergency paramedics and the criteria for the establishment of ALS services would determine the placement of ALS services in the province.

Some existing ALS services may not meet these requirement.

Hospitals and physicians would have to become involved in continuing medical education of emergency paramedics.

6.2. Integration of BLS and ALS

Since the recommendations outlined in the BLS Policy Paper (August 15, 1980) form the basis for an ambulance program at the BLS level, and

Since an ALS ambulance program would be incumbent upon a pre-existing BLS ambulance program, therefore,

It is recommended:

4. That the intent of the BLS Policy Paper recommendations would also apply to an ALS ambulance program, namely:

   (i) That the Regulations to an Ambulance Services Act would include both BLS and ALS programs;

   (ii) That Ambulance District Boards be formed at the local level to administer and regulate BLS or ALS ambulance services. An ALS service could employ Emergency Medical Technician-Ambulance (EMT-A) and emergency paramedics;

   (iii) That the provincial government provide 100% funding for ALS ambulance services on a program budget basis;

   (iv) That the emergency paramedic, designated as the Emergency Medical Technician-Paramedic (EMT-P) be licensed to perform ALS duties.

   (v) That minimum standards with regard to equipment and vehicles be set for ALS ambulance services;

(vi) That a uniform reporting system be developed for ambulance services;

(vii) That a province-wide ground ambulance radio communications system, with regional dispatch, be introduced;

(viii) That Section 7 (1), (e), (i), (ii) and (iii) of The Alberta Hospitalization Benefits Regulations under The Alberta Hospitals Act, which allows in-patients to be transported between hospitals within the same city by ambulance or commercial vehicles as an insured service, be amended by deleting "within the same city" and that these regulations include "nursing homes".

(ix) That a user fee without a kilometer charge for ambulance services be adopted.

6.3. Implementation Strategy

It is recommended:

5. That the ALS services in existence at the time of introduction of an ALS program be given the opportunity to apply for provincial government funding, to the ALS level, based on the criteria for the establishment of ALS services.

6. That the cities of Edmonton, Lethbridge and Red Deer be given the same opportunity as (5) above, if they do not have ALS ambulance services at the time that the ALS ambulance program is introduced.

7. That the provincial government funding for ALS services would not be considered for any other community for a period of at least 24 months following the introduction of an ALS program to enable the Department of Hospitals and Medical Care to collect data pertaining to ALS ambulance services.

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APPENDIX I

APPENDIX I

ALBERTA GROUND AMBULANCE PROGRAM - ADVANCED LIFE SUPPORT (ALS) LEVEL

PROJECTED YEARLY COSTS (1980 DOLLARS) - BASED ON 98 KNOWN AMBULANCE SERVICES[1]

September 25, 1980

OPERATING	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Salaries	$ 9,269,652.	$ 10,776,464.	$ 12,361,295.	$ 13,913,528.	$ 15,415,160.
Vehicle Maintenance and Medical Supplies	2,902,419.	4,087,819.	5,273,219.	6,458,619.	7,644,919.
Administration	2,505,200.	3,684,400.	4,863,600.	6,042,800.	7,222,000.
	$ 14,677,271.	$ 18,548,683.	$ 22,498,114.	$ 26,414,947.	$ 30,281,179.
CAPITAL					
Vehicles	$ 2,168,000.	$ 2,008,000.	$ 1,928,000.	$ 1,888,000.	$ 1,888,000.
Medical Equipment	640,900.	611,900.	568,400.	568,400.	568,400.
Radio Communication	433,160.	413,560.	384,160.	384,160.	384,160.
	$ 3,242,060.	$ 3,033,460.	$ 2,880,560.	$ 2,840,560.	$ 2,840,560.
TOTAL	$ 17,919,331.	$ 21,582,143.	$ 25,378,574.	$ 29,255,507.	$ 33,121,739.
LESS REVENUE:[2] (User Charge $45.00)	$ 3,706,380.	$ 4,118,760.	$ 4,531,140.	$ 4,943,520.	$ 5,310,000.
PROJECTED YEARLY COSTS (1980 DOLLARS)	$ 14,212,951.	$ 17,463,383	$ 20,847,534.	$ 24,311,987.	$ 27,811,739.
ESTIMATED PER CAPITA COSTS: (2,000,000 POPULATION APPROX.)	$7.10	$8.73	$10.42	$12.15	$13.90

[1] Year 1: Existing ALS services (Airdrie, Calgary, Fort McMurray, Grande Prairie, High River, Medicine Hat and St. Albert.

Proposed ALS services (Edmonton, Lethbridge, Red Deer and eight other communities.

Year 2-5: Twenty (20) communities upgraded to ALS level of service each year.

[2] Based on the estimated number of trips by number of services and year:

Year 1: $45.00 x 82,364 trips = $ 3,706,380. (18 ALS services total)
Year 2: $45.00 x 91,528 trips = $ 4,118,760. (38 ALS services total)
Year 3: $45.00 x 100,692 trips = $ 4,531,140. (58 ALS services total)
Year 4: $45.00 x 109,856 trips = $ 4,943,520. (78 ALS services total)
Year 5: $45.00 x 118,000 trips = $ 5,310,000. (98 ALS services total)

APPENDIX I

ALBERTA GROUND AMBULANCE PROGRAM - BASIC LIFE SUPPORT (BLS) LEVEL

PROJECTED YEARLY COSTS (1980 DOLLARS)[1]

March 3, 1980
Revised May 20,

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	PROJECTED YEARLY COSTS (1980 DOLLARS)
OPERATING						
Salaries[2]	$ 11,500,000.	$ 11,500,000.	$ 11,500,000.	$ 11,500,000.	$ 11,500,000.	
Vehicle Maintenance	580,000.	580,000.	580,000.	580,000.	580,000.	
Medical Supplies	387,000.	387,000.	387,000.	387,000.	387,000.	
Insurance	21,500.	21,500.	21,500.	21,500.	21,500.	
Administration	150,000.	150,000.	150,000.	150,000.	150,000.	
	$ 12,638,500.	$ 12,638,500.	$ 12,638,500.	$ 12,638,500.	$ 12,638,500.	$ 12,638,500.
CAPITAL						
Vehicles[3]	$ 1,500,000.	$ 1,500,000.	$ 1,500,000.	$ 1,500,000.	$ 1,500,000.	
Medical Equipment[4]	388,600.	388,600.	388,600.	388,600.	388,600.	
	$ 1,888,600.	$ 1,888,600.	$ 1,888,600.	$ 1,888,600.	$ 1,888,600.	$ 1,888,600.
COMMUNICATIONS SERVICE CHARGE[5]						
Ground	$ 539,912.	NIL	NIL	NIL	NIL	
Air	73,157.	NIL	NIL	NIL	NIL	
	$ 613,069.					$ 613,069.
COMMUNICATIONS RENTAL CHARGE (10 YEAR CONTRACT)[6]						
Ground	$ 1,877,000.	$ 1,877,000.	$ 1,877,800.	$ 1,877,800.	$ 1,877,800.	
Air	317,800.	317,800.	317,800.	317,800.	317,800.	
	$ 2,195,600.	$ 2,195,600.	$ 2,195,600.	$ 2,195,600.	$ 2,195,600.	$ 2,195,600.
EMERGENCY SERVICES BRANCH						
See Attached	$ 261,486.	$ 261,486.	$ 261,486.	$ 261,486.	$ 261,486.	261,486.
TOTAL						$ 17,605,255.
Less Revenue User Charge (Co-Insurance) $45.00 @ 118,000. ambulance calls per year						5,310,000.
					PROJECTED YEARLY COSTS (1980 DOLLARS)	$ 12,295,255.[7]

YEAR 1:	$12,295,255. OR	$6.15 PER CAPITA
YEARS 2, 3, 4, + 5:	$11,682,186. OR	$5.84 PER CAPITA

[1] Based on 98 known ambulance services (97 reporting).

[2] Based on existing salaries of $18,000. including benefits for full-time personnel and $7,300. for each part-time service.

[3] Allows 67 new ambulance vehicles per year at $22,000. each of the van conversion type. It is reported that there are 215 ambulance vehicles in operation - 40 ambulance operators have only one vehicle.

[4] 67 new ambulance vehicles at $5,800. per vehicle.

[5] Year 1 only.

[6] There is a five year contract available. Rental charges per year are: Ground $ 2,200,800.
Air $ 328,000.

[7] Projected expenditure for year 1: $12,295,255.
For years 2, 3, 4, + 5: $ 12,295,255.
Less year 1 Communication service charge: 613,069.
$ 11,682,186. OR $5.84 PER CAPITA

APPENDIX II

APPENDIX II ALBERTA GROUND AMBULANCE PROGRAM - ADVANCED LIFE SUPPORT (ALS) LEVEL

PROJECTED YEARLY COSTS (1980 DOLLARS) - FOR 10 SELECTED ALBERTA COMMUNITIES[1]

September 25, 1980

OPERATING[2]	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Salaries	$ 7,768,020.	$ 7,773,200.	$ 7,856,400.	$ 7,907,000.	$ 7,907,000
Vehicle Maintenance and Medical Supplies	1,717,019.	1,717,019.	1,717,019	1,717,019	1,717,019.
Administration	1,326,000.	1,326,000.	1,326,000.	1,326,000.	1,326,000.
	$ 10,811,039.	$ 10,816,219.	$ 10,899,419.	$ 10,950,019.	$ 10,950,019.
CAPITAL[3]					
Vehicles	$ 800,000.	$ 640,000.	$ 560,000.	$ 520,000.	$ 520,000.
Medical Equipment	145,000.	116,000.	72,500.	72,500.	---
Radio Communication Equipment	98,000.	78,400.	49,000.	49,000.	---
	$ 1,043,000.	$ 834,400.	$ 681,500.	$ 641,500.	$ 520,000.
TOTAL	$ 11,854,039.	$ 11,650,619.	$ 11,580,919.	$ 11,591,519.	$ 11,470,019.
LESS REVENUE: (User charge $45.00 estimated at 73,200 ambulance trips per year)	$ 3,294,000.	$ 3,294,000.	$ 3,294,000.	$ 3,294,000.	$ 3,294,000.
PROJECTED YEARLY COSTS (1980 DOLLARS)	$ 8,560,039.	$ 8,356,619.	$ 8,286,919.	$ 8,297,519.	$ 8,176,019.
ESTIMATED PER CAPITA COSTS: (APPROX. 1,303,000 POPULATION IN 10 ALS CENTRES)	$6.58	$6.42	$6.37	$6.38	$6.28

[1] Existing:
Airdrie, Calgary, Fort McMurray, Grande Prairie, High River, Medicine Hat, St. Albert.
Proposed:
Edmonton, Lethbridge, Red Deer.

[2] The projected operating costs remain relatively constant since ALS salaries only exceed BLS salaries by approximately $2,000.00/year/employee.

[3] Year 1: Upgrade some existing ALS services to new standard.
: Begin implementation of ALS level of services at Edmonton, Lethbridge and Red Deer.

Year 2-5: Continue implementation at Edmonton, Lethbridge and Red Deer.
: Funds available to replace equipment at existing ALS services.